

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



10/526519



(43) International Publication Date
25 March 2004 (25.03.2004)

PCT

(10) International Publication Number
WO 2004/025839 A1

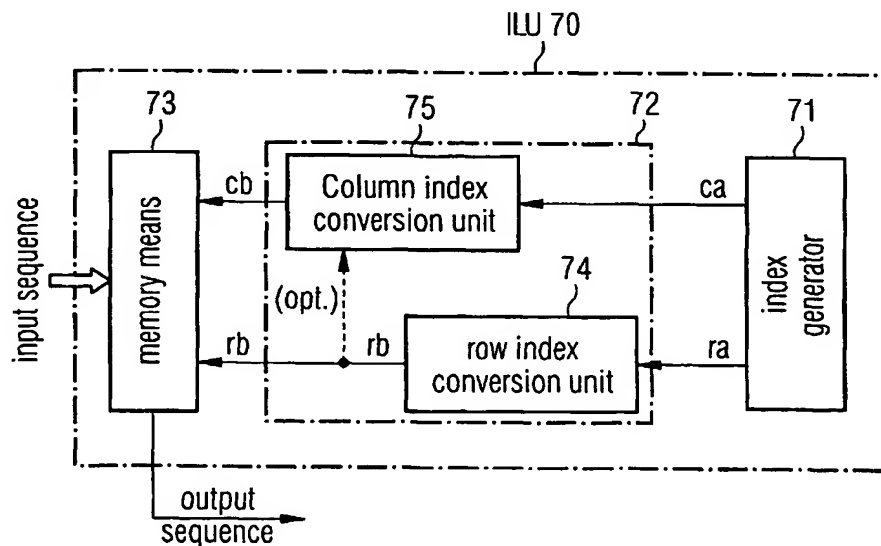
- (51) International Patent Classification⁷: H03M 13/27 (74) Agent: SJÖBERG, Mats; Ericsson AB, Patent Department, 164 80 Stockholm (DE).
- (21) International Application Number: PCT/EP2002/010073 (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date: 9 September 2002 (09.09.2002)
- (25) Filing Language: English
- (26) Publication Language: English
- (71) Applicant (*for all designated States except US*): TELEFONAKTIEBOLAGET LM ERICSSON (PUBL) [SE/SE]; S-126 25 Stockholm (SE).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): KUKLA, Ralf [DE/DE]; Happurger Strasse 117, 90482 Nürnberg (DE). SCHÜTZ, Stefan [DE/DE]; Zur Sportinsel 11, 91301 Forchheim (DE). SPÖRLEIN, Georg [DE/DE]; Bahnhofstrasse 33, 96114 Hirschaid (DE). MÖRSBERGER, Gerd [DE/DE]; Johannesstrasse 10 A, 91088 Bubenreuth (DE).
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA,

[Continued on next page]

(54) Title: SPEED AND MEMORY OPTIMISED INTERLEAVING



(57) Abstract: This invention relates to a method for interleaving, according to an interleaving scheme, an input sequence comprising K bits into an interleaved sequence, comprising the steps of (a) storing the input sequence in a first memory means, (b) generating first indices of N succeeding bits of the interleaved sequence, wherein $1 \leq m(F) \leq N \leq m(F) \cdot K$, (c) converting, according to an inverse of said interleaving scheme, said first indices into second indices indicative of the positions where said N succeeding bits of the interleaved sequence are stored in said first memory means, and (d) reading out said N succeeding bits from said positions in said first memory means, thereby generating at least part of said interleaved sequence.